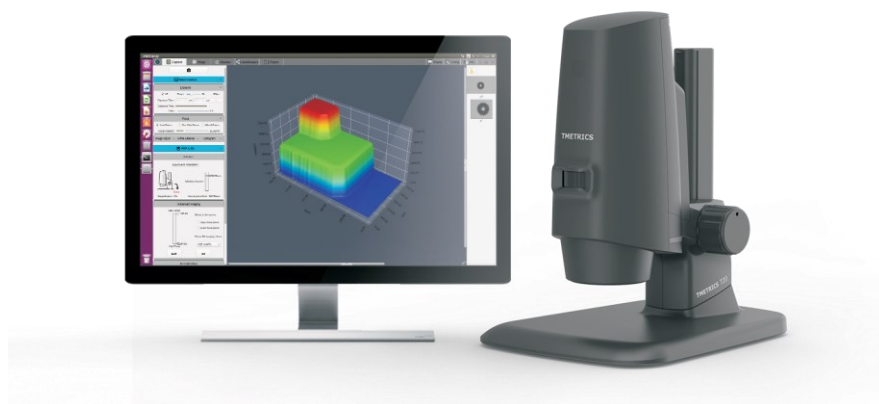


## 3D-Super Depth of Field Microscope TMETRICS T20



**2022 V1**

For customized projects please Contact us:

[info@simtrum.com](mailto:info@simtrum.com)

## TMETRICS T20

### Smart 3D microscope with 16X-160X Optical system

The T20 is a smart stereo microscope, which is built with 3D and EDF technologies for the efficiency of microscopic researches and inspections. Its unique All-in-one design is equal to five professional equipment in one: a stereoscopic microscope, a camera, a microscopy software, a Z-axis electronic platform and a computer host..

### Features

- 8mm Diagonal FOV
- 1920 x1080 Resolution
- 3.75 $\mu\text{m}$ ×3.75 $\mu\text{m}$  Pixel Size
- 60fps@2MP Frame Rate
- HDMI Data interface

### Core technology creats strong linkage performance



## Simple but Powerful All-in-one Design

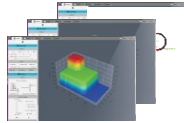
Highly integrated, equal to five professional equipment in one



Stereoscopic microscope



High speed & dynamic color camera



Microscopy image analysis software



Precision Z-axis electronic platform



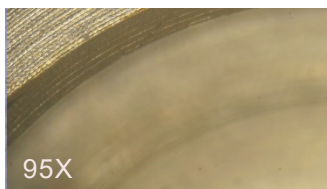
High performance mainframe

No computer is required, all functions can be completed by mouse

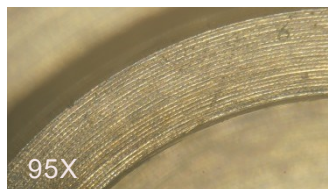


## Observation Upgrade

Observe under high magnification,  
microscope cannot focus on multiple layers at the same time.



Focus position: the highest layer



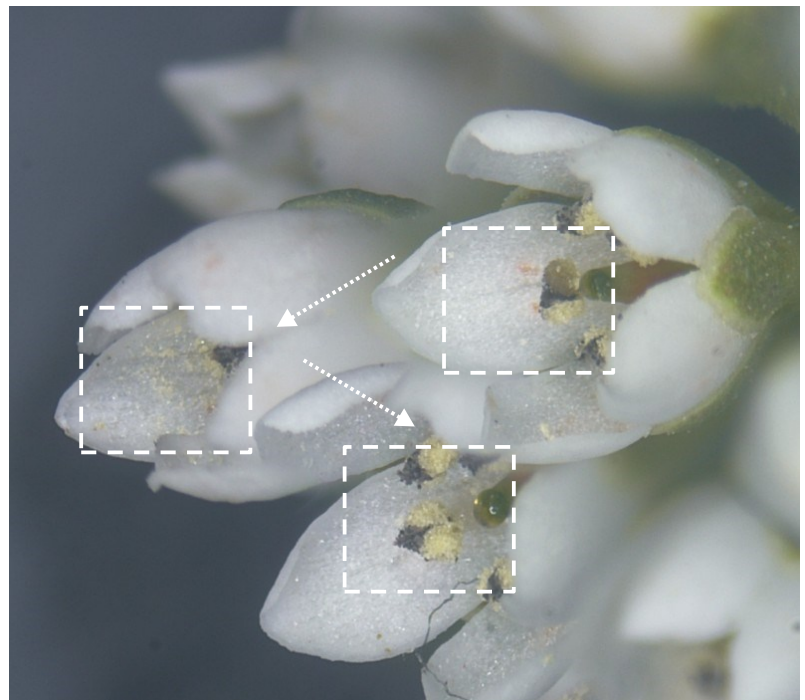
Focus position: middle layer



Focus position: lowest layer

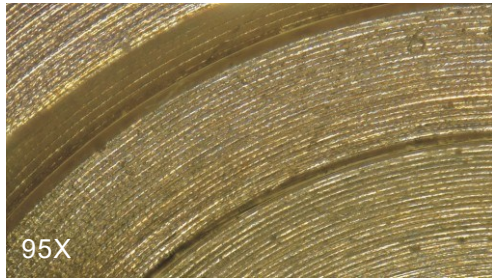
16-160X magnification observation, high-speed auto focus throughout

When observing a sample with an ordinary microscope, manual focusing is required repeatedly, which is cumbersome and inefficient. T20 adopts liquid lens for high-speed auto-focusing, supports 16-160x microscopic magnification observation, and instantly auto-focus at the mouse click, eliminating the need for repeated manual adjustments in the past, and microscopic observation is simpler and smoother.

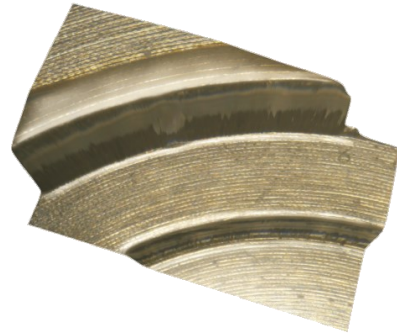


## Clear and Efficient Microscopic Observation

T20 super depth of field achieves clear and 3D microscopic observation



Real-time EDF, focus full width in one second



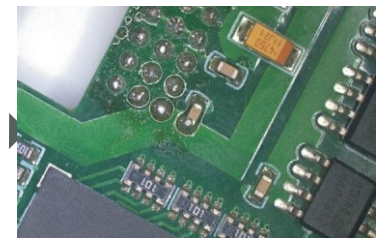
3D display, observe three dimensional shape features

## Real-time depth of field (EDF), reduce blurry and false images

It is easy to cause angle deviation, rotation and uneven focal plane when using third-party software and hardware systems to expand the depth of field, T20's optical-mechanical-electrical integration structure and linkage algorithm technology can solve the above problems and obtain a clear and correct full-frame focus picture.



EDF diagram of third-party software and hardware systems



Tucsen T20 integrated system EDF diagram

## Real-time wide dynamic (WDR), effectively eliminate strong reflections on metal surface

The strong reflection of the metal surface can easily cause the loss of detailed information and affect the judgment. The T20 WDR mode can create images with perfect exposure and clear light and dark details by calculating the data of multiple images with different brightness in real time.



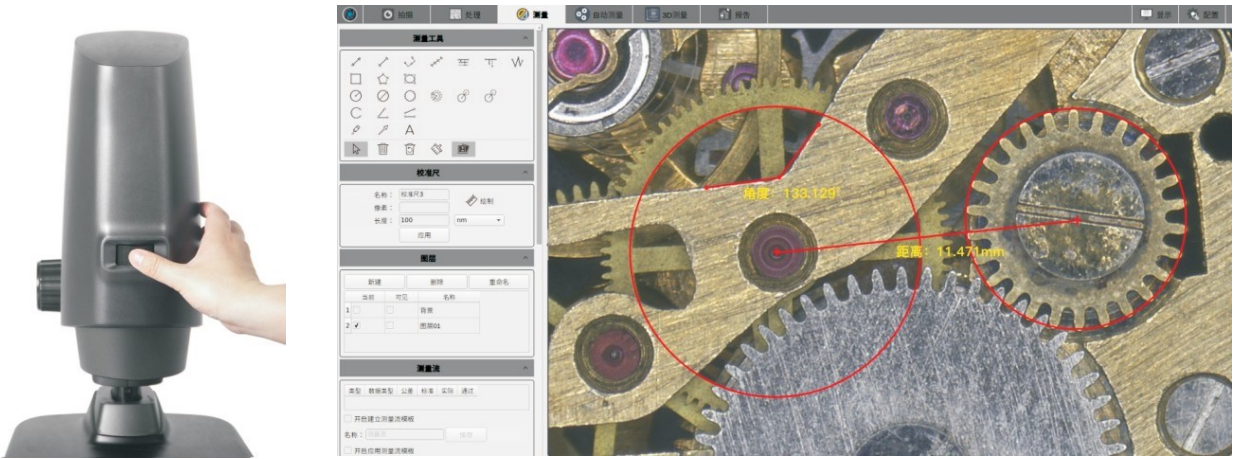
Before WDR



After WDR

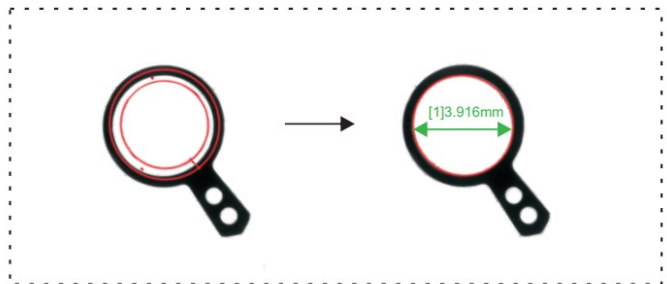
## Measurement Upgrade

Real-time measurement, no need to recalibrate in auto focus and zoom mode



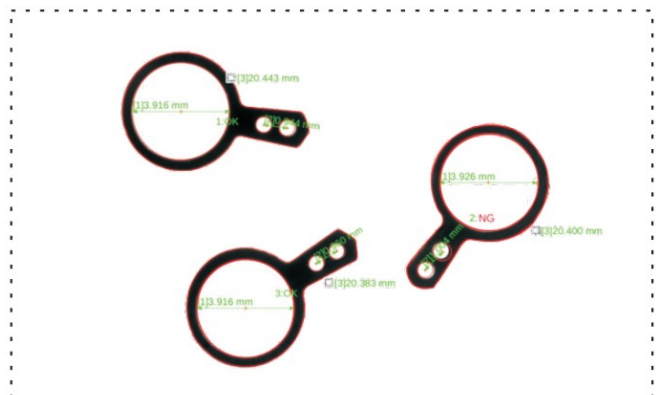
### Automatic edge extraction to eliminate human error

T20 automatic edge extraction function can quickly perform standard modeling work without manual precise positioning, 3 micron resolution, automatic measurement accuracy  $\leq 5$  microns, repeat accuracy  $\leq 3$  microns, effectively eliminating human operation errors.



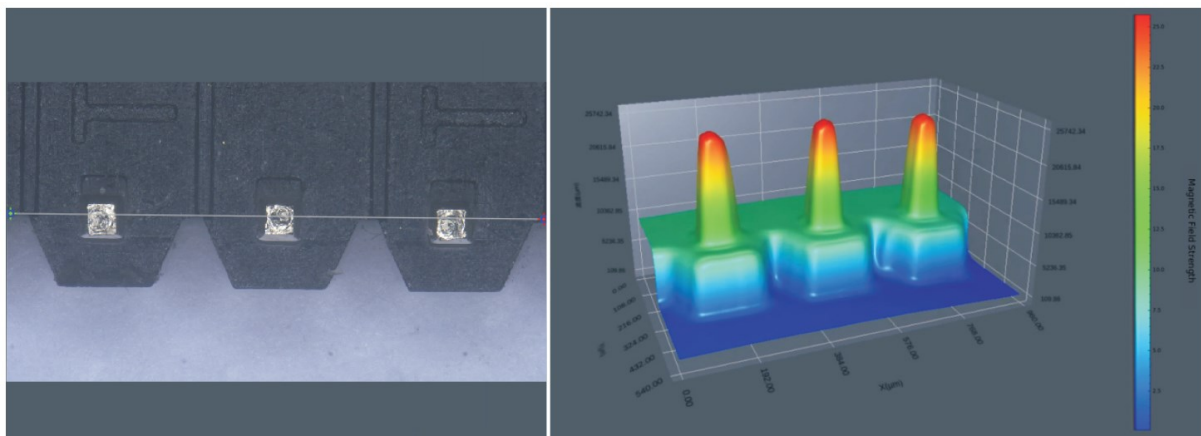
### Automatic batch measurement to improve work efficiency

After completing the standard modeling of small devices, T20 can quickly complete the batch measurement work of other samples, export data information of multiple samples in one time, greatly improve work efficiency.



## Continuous and Complete Measurement Data Recoding

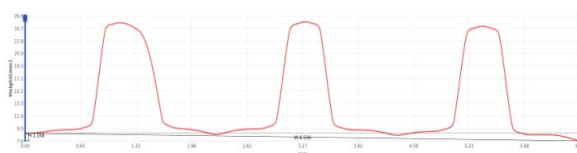
Available to do 3D measurement at any position



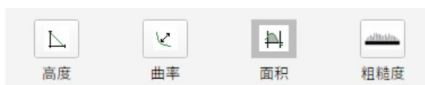
Diversified tools, real-time data recording

T20 provides a wealth of measurement and analysis tools, and can record data in real time. The Z-axis measurement accuracy of  $\leq 50$  microns and the repeatability of  $\leq 5$  microns can meet the needs of most microscopic measurement.

Width: 6.536mm, Altitude: 1.168mm



	X1	Y1	X2	Y2	Distance	HeightDiff	
1	6.68	232.07	951.65	242.09	6.536	1.168	Save



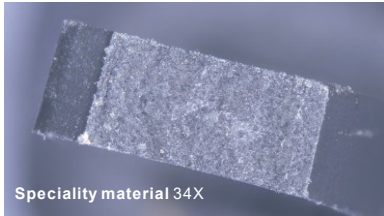
Data can be exported with automatically reports created

T20 can not only save image and video data, but also automatically create test reports with pictures and texts. All data in the workflow can be exported, when the operation is over, the work is completed, quite simple and easy!

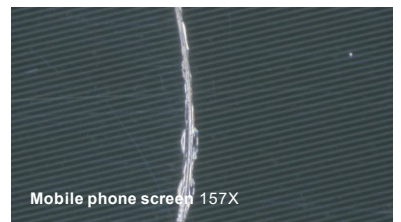
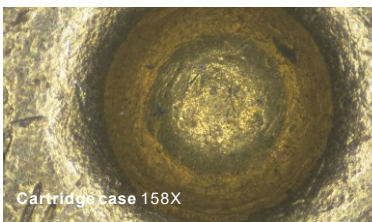


## Reference Cases

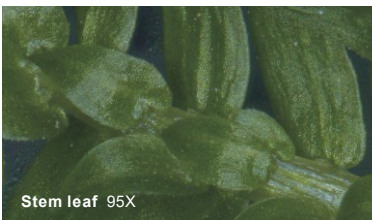
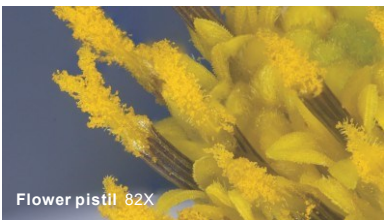
### Material Section Analysis



### Surface Mark Inspection



### Biological Observation



### Parts Measurement

